

How the Kentucky Core Academic Standards for Mathematics are Organized

The content standards for mathematics define what students should understand and be able to do in their study of mathematics. These standards do not dictate curriculum, teaching methods or sequence of instruction.

The content standards for mathematics are organized in a slightly different way for grades K through 8 than for high school.

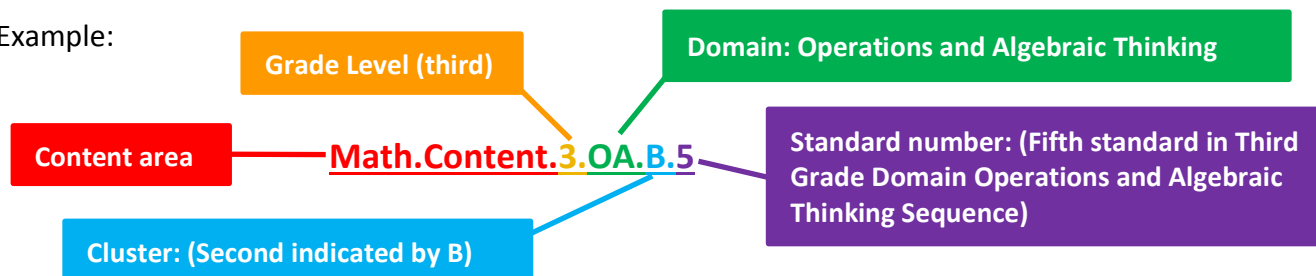
Kindergarten through grade 8:

The content standards for mathematics Kindergarten through grade 8 are presented by grade level.

The content standards are categorized into domains. Each domain contains groups of standards called clusters. Clusters are groups of related standards. Content standards are not the same as domains or clusters, which are used as organizational tools.

Content standards are coded using the grade level (numbers for grades 1-8 and K for Kindergarten), domain, cluster and number.

For Example:



Some standards contain additional parts and this is denoted with a lower case letter following the numbered standard.

High School:

The high school mathematics standards are not organized by course and they do not dictate curriculum, teaching methods or sequence of instruction.

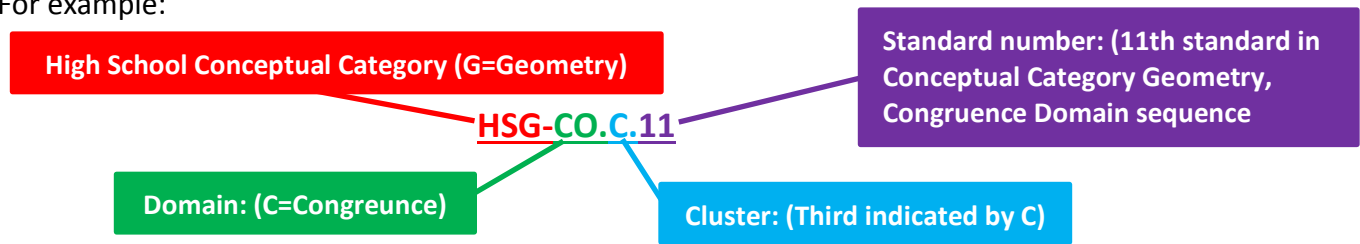
The content standards for mathematics for high school are organized by conceptual categories.

The standards for the conceptual category 'Modeling' are embedded throughout the other conceptual categories and are denoted with a star.

Within the other conceptual categories, the content standards are categorized into domains. Each domain contains groups of standards called clusters. Clusters are groups of related standards. Content standards are not the same as domains or clusters, which are used as organizational tools.

Content standards are coded using the high school conceptual category abbreviations, domain, cluster and number. An HS has been added to this coding to assist with distinguishing between a conceptual category and a course, for instance, the coding of 'HSG' is high school conceptual category: Geometry, not a high school geometry course.

For example:



Within the high school standards you will find additional mathematics that students should learn in order to prepare for advanced mathematics courses such as calculus and advanced statistics. These standards may also appear in courses intended for all students, such as Algebra II.

The Standards for Mathematical Practice, often referred to as the “eight math practices,” describe opportunities that students should be given to engage with the subject matter and demonstrate understanding as they grow and mature mathematically throughout the elementary, middle and high school years.

The Standards for Mathematical Content are a *balanced combination of procedure and understanding* (italics added for emphasis). Expectations that begin with the word "understand" are often especially good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely on procedures too heavily. Without a flexible base from which to work, they may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully to work with the mathematics, explain the mathematics accurately to other students, step back for an overview, or deviate from a known procedure to find a shortcut. In short, a lack of understanding effectively prevents a student from engaging in the mathematical practices. (Resource: CCSSO, 2010 Mathematics Standards p. 8. www.corestandards.org)

Mathematics Progressions: <http://education.ky.gov/school/Documents/Math%20Progressions%20Table.pdf>